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HB 650 RELATING TO SUBMERGED LANDS

Statement for House Committee on Water, Land Use,
Development, and Hawaiian Affairs
Public Hearing, 11 February 1983

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HB 650 proposes two amendments to the Hawaii Revised Statutes that would allow the reclamation of land lost as the result of the effect of storm waves, tsunamis, etc. This statement on the bill does not reflect an institutional position of the University.

The bill merits discussion from three points of view, semantic, legal, and conservation.

Semantic aspect

There is a semantic problem in that the same terms are used in different senses in science and in the law, and different terms are used in the law for what are considered in science to be merely different aspects of the same process. What is referred to in SB 650 as submergence is the loss of dry land area to the ocean resulting from the rapid exercise of the process that, whether rapid or gradual, is referred to in geomorphology as erosion. The term erosion is used in the law, but with reference there only to the gradual exercise of the process. The term submergence, as used in geomorphology refers to the flooding of once dry land as the result of sinking of the land or rising of the water level. In this geomorphologic sense the submergence resulting from waves is limited to periods of an hour or so at the longest, and even the submergence resulting from tides to periods of a day.

To avoid the semantic problem, the kind of land loss with which SB 650 is concerned will be referred to in this review as that resulting from rapid retreat of the shoreline due to wave attack.

Legal aspect

In the common law, a distinction is made between, on the one hand, the effects of rapid shoreline retreats and their opposite, rapid shoreline advances, and on the other hand, the effects of gradual changes in the two directions. Property boundaries are considered

to shift with shoreline changes if the changes are gradual, but not if the changes are rapid. The applicability of the common law in Hawaii, pertinent case law, and some of the consequences are discussed at some length in "Shoreline Property Boundaries in Hawaii" (DPED/CZM Tech. Suppl. 21, 1980). It is sufficient here to note that the retention of the original property boundary where a shoreline has rapidly retreated is consistent with the Hawaii Supreme Court decision in Zimring (1977) regarding a shoreline advance. The advance in that case was not abrupt but resulted from the fairly gradual extension of a lava flow. Hence there seems to be no legal impediment to the declaration in lines to 10 of p. 1 of SB 650 that the fee simple ownership of land reclaimed after "submergence" remains with the pre-"submergence" owner.

Conservation aspect

In discussing the conservation aspect of the bill's implications it is necessary to recognize that significant rapid shoreline retreat resulting from waves is almost entirely restricted to beaches. Almost all ocean beaches are subject to significant gradual net retreat, gradual net advance, or alternating retreat and advance. It has been observed that where a tsunami or the waves of a severe storm have caused rapid retreat of a beach that was quasi-stable, the beach is subsequently restored by natural processes to its original quasi-stable position; where the rapid retreat affected a beach that was gradually advancing, the advance is begun again after the event; and only where the rapid retreat effected a beach that was gradually retreating does the retreat continue. The implication is that the sand removed from the beach during the rapid retreat is often not removed from the littoral sand system, but remains in shallow water areas from which it may be returned naturally to the beach.

There is ample evidence, however, that an attempt after a rapid retreat to restore a beach to a position not reflecting equilibrium conditions will be defeated by nature unless some protection is provided, as by a sea wall, and also that the construction of sea walls reduces greatly the chance that sand will again accumulate. The problem is discussed in "Notes in Hawaiian Sand Beach Management", (DPED/CZM Tech. Suppl. 12, 1978) and "Beach Changes on Oahu as Revealed by Aerial Photographs" (DPED/CZM Tech. Suppl. 22, 1981).

The reclamation of land to a property boundary originally following a shoreline from which there has been rapid retreat will then, restore to the owner, land lost by the retreat, but only at the expense of beach the loss of, and hence a public detriment. There is therefore a serious problem to be faced in balancing the interests of the owners of the land against the public interest in the beaches.

Conclusions

The number of legislators subscribing to the introduction of HB 650 adds to ample evidence of other kinds that the problem of land loss due to beach retreat is a serious one to land owners. There is no evidence in the bill of recognition of the problem of loss of beaches along the Hawaiian shorelines due to attempts by landowners to offset the effects of natural beach retreat.

How the private interests in land and the public interests in beaches are to be balanced is of course, to be determined by legislation. We suggest, however, that the determinative legislation should be based on full recognition of both sides of the problem.